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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/703,959	11/01/2000	Yoshihiro Maeda	41079	3407

1609 7590 05/07/2003

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EXAMINER

MRUK, BRIAN P

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/703,959

Applicant(s)

MAEDA ET AL.

Examiner

Brian P Mruk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3-4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al, EP 874,008 A2.

Yamaguchi et al, EP 874,008 A2, discloses a maleic acid based copolymer having a molecular weight of 1,000-100,000, a calcium ion capturability of 300 mgCaCO₃ per gram or higher, and a clay dispersability of at least 1.4 for use in a detergent composition (see page 3, lines 19-35), per the requirements of the instant invention. It is further taught by Yamaguchi et al that the maleic acid polymer may be combined with a water soluble ethylenically unsaturated monomer, such as acrylic acid, methacrylic acid, 3-allyloxy-2-hydroxypropanesulfonic acid, and sulfoethyl (meth)acrylate in a molar ratio of 95/5 to 5/95 (see page 4, lines 20-29 & page 5, lines 4-58), per the

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requirements of instant claim 2. Specifically, note page 19, Table 2, Example 1-7, which discloses a polymer mixture containing 53.8 molar percent of maleic acid based copolymer and 46.2 molar percent of a mixture of acrylic acid and sodium 2-hydroxy-3-allyloxypropanesulfonate, per the requirements of instant claims 1-6. Furthermore, note that Table 3 on page 22 discloses that Example 1-7 has a calcium ion capturability of 310 mgCaCO₃ per gram, and a clay dispersability of 1.5, per the requirements of instant claims 1 and 3-4, and also note that Table 16 on page 49 discloses that the polymer mixture is used in a detergent composition, per the requirements of instant claims 7-12. Therefore, instant claims 1-12 are anticipated by Yamaguchi et al, EP 874,008 A2.

4. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bell, U.S. Patent No. 5,549,852.

Bell, U.S. Patent No. 5,549,852, discloses a polymer composition for use in a detergent builder comprising 75-99.9% of a monocarboxylic acid or salt monomer, 0-25% by weight of a dicarboxylic acid, anhydride or salt monomer, and 0.1-5.0% by weight of an acrylic monomer (see abstract & col. 8, lines 53-67), per the requirements of instant claims 1-12. Specifically, note Example 2, which discloses a polymer mixture containing 6.19 parts of maleic anhydride, 24.76 parts of glacial acrylic acid and 0.31 parts of 2-sulfoethyl methacrylate, per the requirements of the instant invention. The examiner asserts that the polymer mixture in Example 2 of Bell would inherently meet the calcium ion scavengeability and clay dispersability requirements of the instant invention, since the monomers used in Bell are the preferred monomers disclosed in the

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instant specification, **absent a showing otherwise**. Therefore, instant claims 1-12 are anticipated by Bell, U.S. Patent No. 5,549,852.

5. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al, U.S. Patent No. 5,733,857.

Yamaguchi et al, U.S. Patent No. 5,733,857, discloses a maleic acid based copolymer having a molecular weight of 1,000-100,000, a calcium ion capturability of 300 mgCaCO₃ per gram or higher, and a clay dispersability of at least 1.2 for use in a detergent composition (see abstract & col. 2, line 55-col. 3, line 20), per the requirements of the instant invention. It is further taught by Yamaguchi et al that the maleic acid polymer may be combined with a water soluble ethylenically unsaturated monomer, such as acrylic acid, methacrylic acid, 3-allyloxy-2-hydroxypropanesulfonic acid, and sulfoethyl (meth)acrylate in a molar ratio of 95/5 to 5/95 (see col. 5, line 10-col. 6, line 31), per the requirements of instant claim 2. Specifically, note columns 21-23, Table 2, Example 1-7, which discloses a polymer mixture containing 53.8 molar percent of maleic acid based copolymer and 46.2 molar percent of a mixture of acrylic acid and sodium 2-hydroxy-3-allyloxypropanesulfonate, per the requirements of instant claims 1-6. Furthermore, note that Table 3 on column 23 discloses that Example 1-7 has a calcium ion capturability of 310 mgCaCO₃ per gram, and a clay dispersability of 1.5, per the requirements of instant claims 1 and 3-4, and also note that Table 16 on column 41 discloses that the polymer mixture is used in a detergent composition, per

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the requirements of instant claims 7-12. Therefore, instant claims 1-12 are anticipated by Yamaguchi et al, U.S. Patent No. 5,733,857.

6. The examiner notes that the references cited in the European Search Report as "X" references are cumulative to the art rejections of record, and thus, have not been applied in this Office action in accordance with **MPEP 706.02**.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Mruk whose telephone number is (703) 305-0728. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta, can be reached on (703) 308-4708. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 (Before Final) and (703) 872-9311 (After Final).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

BPM

Brian Mruk
May 2, 2003

Brian P. Mruk

Brian P. Mruk
Patent Examiner
Tech Center 1700